



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,500	04/15/2004	Chao Chen	55525501.2556	8568
7590 Lorri W. Cooper, Esq. Jones Day 901 Lakeside Avenue/North Point Cleveland, OH 44114			EXAMINER NGUYEN, KEVIN M	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 03/27/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,500

Applicant(s)

CHEN ET AL.

Examiner

KEVIN M. NGUYEN

Art Unit

2629

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-20,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-20,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to amendment

1. Claims 3, 5, 21 and 24-26 are cancelled, and claim 1 is amended. Thus, claims 1-2, 4, 6-20, 22 and 23 are pending in this application.
2. In view of the applicant's supplemental amendment, filed on 3/7/2008, with respect to the amendment to claims 1-2, 4, 6-20, 22 and 23 have been fully considered and are not persuasive. The indicated allowability of claim 5 (now is corresponding to the amended claim 1 dated on 1/8/2008) is withdrawn in view of the newly discovered reference to Ng et al (US 2003/0193478). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis et al (US 5,659,307, **Karidis**) in view of Ng et al. (US 2003/0193478, **Ng**).
3. As to **claim 1**, a keyboard comprising: a plurality of keys associated with alphanumeric characters including the letters A-Z and at least the numbers 1-9, said keys being split into a left side section and a right side section, (in the alternate embodiment, **Karidis** shows in fig. 2A, the letters A-Z and the numbers 1-9a, left side 33, a right side 38);

the left side section is oriented at least partially above the right side section to define an upper section corresponding to the left side section and a lower section corresponding to the right

side section (in the alternate embodiment, **Karidis** shows in fig. 7A, the upper left side 162 and the lower right side 164 are vertical partially overlapping see fig. 7A);

or the right side section is oriented at least partially above the left side section to define an upper section corresponding to the right side section and a lower section corresponding to the left side section, (in the alternate embodiment, **Karidis** shows in fig. 2A, the lower left side 33 and the upper right side 38 are vertically partially overlapping see fig. 2A);

Ng teaches the alphanumeric characters represent a QWERTY-style key arrangement, and when the left side section is oriented at least partially above the right side section, the upper section includes said keys associated with the alphabetic characters "QWERTASDFGZXCV", and the lower section includes said keys associated with the alphabetic characters "YUIOPHJKLBNM", (figure 1 of **Ng** shows the upper left keys 10 is mapped corresponding QWERTASDFGZXCV, and the lower right keys 18, 20 and 22 are mapped corresponding YUIOPHJKLBNM.).

or when the right side section is oriented at least partially above the left side section, the upper section includes said keys associated with the alphabetic characters "YUIOPHJKLBNM" and the lower section includes said keys associated with the alphabetic characters "QWERTASDFGZXCV". (or figure 1 of **Ng** shows the upper right keys 10 is mapped corresponding YUIOPHJKLBNM, and the lower left keys 12, 14 and 16 are mapped corresponding QWERTASDFGZXCV.).

As to claim 2, figure 1 of **Ng** teaches the keyboard of claim 1, wherein all of the keys of the upper section (10) are positioned above all of the keys of the lower section (12, 14 and 16).

As to claim 4, figure 1 of Ng teaches the keyboard of claim 1, wherein part of the upper section (10) transversely overlaps part of the lower section (12).

As to claim 16, the keyboard of claim 1, wherein at least some of the plurality of keys are further associated with at least one of symbols or functions (Karidis teaches the keys associated with the functions F1, F2, and F3... see fig. 1).

The incorporation of the keyboard arrangement in figure 1 as taught by Ng into the keyboard arrangement in figs. 2A and 7A as taught by Karidis would have been obtained as a predictable modification-- Ng designs keyboard that fit into smaller mobile devices (see item [0292] of Ng). Ng's benefit makes the reduced keyboard system easy to learn and QWERTY-type compatible, while reducing the typing feel and speed of conventional keyboard typing, by facilitating double handed typing, and fabricating the keyboard at low cost (see the items [0294], [0311], [0312] of Ng). It would have been obvious to one of ordinary skill in the art could have applied the known "improvement" technique of Ng in the same way to the Karidis's keyboard device and the results would have been predictable to one ordinary skill in the art.

4. Claims 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, and further in view of Rasanen (US 6,542,091).

As to claim 17, Karidis and Ng teach all of the limitation of claim 1, except for a thumb wheel coupled to the keyboard, Rasanen discloses a thumb disk 50, col. 23, lines 28-33.

As to claim 19, the keyboard of claim 1, further comprising at least one key associated with the caps function (Karidis teaches the caps functions at row C7, see fig. 1).

As to claim 20, Karidis and Ng teach all of the limitation of claim 19/1, except for the at least one key associated with the caps function comprises a first caps key and a second caps key,

with the first caps key being associated with the upper section and the second caps key being associated with the lower section. Figure 2 of Rasanen shows a first caps key in key 9, and a second caps key in key 6.

The incorporation of the keyboard arrangement as taught by Karidis, Ng and Rasanen would have been obtained as a predictable modification--Rasanen's benefit reduces and eliminates the movement of the fingers from one key to another, thereby simultaneously reducing the incidence of "hunt and peck" typing (see col. 3, lines 21-25 of Rasanen). It would have been obvious to one of ordinary skill in the art could have applied the known "improvement" technique of Rasanen in the same way to the Karidis's and Ng's keyboard device and the results would have been predictable to one ordinary skill in the art.

5. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, and further in view of Dechene (US 2004/0208681).

As to claim 6, figure 2A of Karidis teaches the keyboard of claim 1, wherein the upper section (38) comprises at least three rows (C2, C3, C4) and five columns of keys (keys 5, 6, 7, 8, 9), and the lower section (33) comprises at least three rows (C3, C4, C5) and five columns of keys (keys F1, F2, F3, F4 and 4).

As to claim 7, Karidis and Ng teach all of the limitation of claim 6/1, except for the five columns of the upper section align longitudinally with the five columns of the lower section. In the alternate embodiment, Figure 8 of Dechene discloses the five columns of the upper section (38) align longitudinally with the five columns of the lower section (40).

As to claim 8, Karidis and Ng teach all of the limitation of claim 6/1, except for the five columns of the upper section are offset longitudinally from the five columns of the lower section.

In the alternate embodiment, Figure 11 of Dechene discloses the five columns of the upper section (38) offset longitudinally from the five columns of the lower section (40).

As to claim 9, the keyboard of claim 6, wherein the left side section of keys comprises a first row associated with characters "Q", "W", "E", "R", and "T", a second row associated with characters "A", "S", "D", "F", and "G", and a third row associated with characters "Z", "X", "C", and "V"; (figure 1 of Ng teaches elements 12, 14, and 16); and the right side section comprises a first row associated with characters "Y", "U", "I", "O", and "P", a second row associated with characters "H", "J", "K", and "L", and a third row associated with characters "B", "N", and "M". (figure 1 of Ng teaches elements 18, 20 and 22).

The incorporation of the keyboard arrangement in figure 11 as taught by Dechene into the keyboard arrangement in figs. 2A and 7A as taught by Karidis, and the keyboard arrangement in figure 1 as taught by Ng would have been obtained as a predictable modification—Dechene's benefit allows the user to hold the keyboard device and rapidly input data even when not at a desk or a table (see the items [0031] of Dechene). It would have been obvious to one of ordinary skill in the art could have applied the known "improvement" technique of Dechene in the same way to the Karidis's and Ng's keyboard device and the results would have been predictable to one ordinary skill in the art.

6. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, Dechene, and further in view of Capps (US 2003/0073414).

Claim 11, Karidis, Ng and Dechene teach all of the limitation of claim 10/9/6/1, except for a key associated with the space function and a key associated with the number "0". As

modified by Capps, Capps conventionally discloses a key in which a space is a "0" (paragraph 16).

Claim 12, Karidis, Ng and Dechene teach all of the limitation of claim 11/10/9/6/1, except for the space function and the number "0" are associated with the same key. Capps conventionally discloses space and "0" are designated the common key.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Karidis, Ng and Dechene to have a key in which a space is a "0" as conventionally disclosed by Capps, because this would be the conventional keyboard of the mobile phone.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, Dechene, and further in view of Grant (US 5,119,078).

Claim 13, the combination of Karidis, Ng, and Dechene teaches all of the limitation of claim 9/6/1, except for the right side section of keys is associated with numbers 1-9, with the "1", "2", and "3" being associated with the first row, the "4", "5", and "6" being associated with the second row, and the "7", "8", and "9" being associated with the third row. Figure 7 of Grant discloses the right side section of keys is associated with numbers 1-9, with the "1", "2", and "3" being associated with the first row, the "4", "5", and "6" being associated with the second row, and the "7", "8", and "9" being associated with the third row.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Karidis, Ng and Dechene to have figure 7 showing the right side section of keys is associated with numbers 1-9, with the "1", "2", and "3" being associated with the first row, the "4", "5", and "6" being associated with the second row,

and the "7", "8", and "9" being associated with the third row as disclosed by Grant, because this would be the conventional V-shaped keyboard.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, Dechene, and further in view of Ho et al (US 6,628,961, hereinafter Ho).

The combination of Karidis, Ng, and Dechene teaches all of the limitation of claim 9/6/1, except wherein the left side section of keys is associated with numbers 1-9, with the "1", "2", and "3" being associated with the first row, the "4", "5", and "6" being associated with the second row, and the "7", "8", and "9" being associated with the third row.

Figure 3 of Ho teaches the left side section of keys is associated with numbers 1-9, with the "1", "2", and "3" being associated with the first row, the "4", "5", and "6" being associated with the second row, and the "7", "8", and "9" being associated with the third row.

The incorporation of keyboard arrangement as taught by Karidis, Ng, Dechene, and Ho would have been obtained as a predictable modification-- Ho's benefit never be limited by the complicated input method of the handset (col. 6, lines 38-41 of Ho). It would have been obvious to one of ordinary skill in the art could have applied the known "improvement" technique of Ho in the same way to the Karidis's, Ng's and Dechene's keyboard device and the results would have been predictable to one ordinary skill in the art.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, Dechene, Grant, and further in view of Capps.

The combination of Karidis, Ng, Dechene and Grant discloses all of the limitation of claim 13/9/6/1, except for a key associated with the space function and a key

associated with the number "0". As modified by Capps, Capps conventionally discloses a key in which a space is a "0" (paragraph 16).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Karidis, Ng, Dechene and Grant to have a key in which a space is a "0" as conventionally disclosed by Capps, because this would be the conventional keyboard of the mobile phone.

10. Claims 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, Dechene, and further in view of Lee et al (US 2002/0190957 hereinafter Lee).

As to claim 15, Karidis, Ng and Dechene teach all of the limitation of claim 9/6/1, except for the number "0" is associated with a key in one of left side section or the right side section. Figure 1a of Lee discloses the keyboard of claim 9, wherein the number "0" is associated with a key in one of the left side section or the right side section.

As to claim 23, Karidis, Ng and Dechene teaches all of the limitation of claim 9/6/1, except for the mobile communication device comprising a housing having a face, and the keyboard associated with the face of the housing. Figure 7 of Lee teaches the mobile communication device comprising a housing having a face, and the keyboard associated with the face of the housing.

The incorporation of the keyboard arrangement as taught by Karidis, Ng, and Lee would have been obtained as a predictable modification-- Lee's benefit employs in different kinds of portable information system such as a cellular phone, easily input desired texts through the keyboard apparatus even while holding the combined portable information system with his/her own hand, be conveniently inputted without need to alternate the configuration of the keyboard

displayed onto the touch screen device whenever the user intends to input them (paragraphs 41 through 43 of Lee). It would have been obvious to one of ordinary skill in the art could have applied the known “improvement” technique of Lee in the same way to the Karidis’s, Ng’s, and Dechene’s keyboard device and the results would have been predictable to one ordinary skill in the art.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, and further in view of Lee et al (US 2002/0190957 hereinafter Lee).

As to claim 22, Karidis and Ng teach all of the limitation of claim 1, except for a mobile communication device comprising: a housing having a face; and the keyboard associated with the face of the housing. Figure 7 of Lee teaches a mobile communication device comprising: a housing having a face; and the keyboard associated with the face of the housing.

The incorporation of the keyboard arrangement as taught by Karidis, Ng and Lee would have been obtained as a predictable modification-- Lee’s benefit employs in different kinds of portable information system such as a cellular phone, easily input desired texts through the keyboard apparatus even while holding the combined portable information system with his/her own hand, be conveniently inputted without need to alternate the configuration of the keyboard displayed onto the touch screen device whenever the user intends to input them (paragraphs 41 through 43 of Lee). It would have been obvious to one of ordinary skill in the art could have applied the known “improvement” technique of Lee in the same way to the Karidis’s and Ng’s keyboard device and the results would have been predictable to one ordinary skill in the art.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karidis, Ng, and further in view of Olodort et al (US 2005/0091431, Olodort).

Claim 18, Karidis and Ng teach all of the limitation of claim 1, except for a key associated with a "send" function, a key associated with an "end" function, and at least one key associated with a "shift" function. In the alternate embodiment, figure 8B of Olodort teaches a key associated with a "send" function, a key associated with an "end" function, and at least one key associated with a "shift" function.

The incorporation of the "shift" "send" and "end" keys as shown by Olodort into the keyboard arrangement as taught by Karidis and Ng would have been obtained as a predictable modification—Olodort's benefit quickly and accurately enters the text messaging by selecting a command from a keyboard while operating as PDA and a landscape mode. It would have been obvious to one of ordinary skill in the art could have applied the known "improvement" technique of Olodort in the same way to the Karidis's and Ng's keyboard device and the results would have been predictable to one ordinary skill in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen M. Kevin whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin H. Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Nguyen/

Kevin M. Nguyen
Primary Examiner, Art Unit 2629